Australian Defence Force Lessons Learned in Tactical Operations

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Defence Materiel Organisation

ADF Approach

- To win potable water as close as possible to the supported unit to reduce logistic burden of distribution
- Corps of Royal Australian Engineers are responsible for water production
- Responsibility for water and petroleum storage and distribution rests with the logisticians
- Aim for a single petroleum battlefield with over 95% of land systems operating on diesel

Unique Challenges

- Requirement for systems to integrate with legacy systems (restricts size and weight)
- Ability of systems to handle large variations in climatic conditions and source water quality (high colloidal content of source water)
- Maintaining currency of petroleum equipment with civilian safety standards
- Having sufficient petroleum storage and distribution capacity to support expanding rotary wing aviation fleet

Lessons Identified - Water

- Sound water management procedures are required to maintain potable water quality throughout the storage and distribution system
- Building to building clearances in urban terrain is physically demanding and water consumption is greatly increased
- Coalition partners water purification capability did not meet potable water standards

Lessons Identified - Water

- The ability to win water from all available sources is essential
- Palatability of potable water may reduce the intake of water or lead personnel to drink alternate fluids such as carbonated soft drinks which may have diuretic effects
- Consumption rates per person per day:
  - Bottled water 4.5 litres
  - Bulk water 60 to 80 litres dependent upon access to ablutions
  - Humanitarian up to 150 litres

Lessons Identified - Petroleum

- Poor serviceability of fabric collapsible storage tanks reduces storage capacity
- Commercial petroleum supply quality is not guaranteed and must retain integral testing capability
- Ship to shore petroleum transfer capability is essential to support initial entry forces
- Petroleum accounts for approximately 70% of the bulk logistic load of land forces so any improvements in efficiency can have a large impact

Impact of Lessons

- Acquisition projects approved to address capability deficiencies
- Clearly defined management practices adopted for bulk water distribution
- Designing water purification equipment for worse case scenarios results in residual capacity when source water quality is better than expected